CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/WNo.17/KS/SDBC/Bitumen/2014-15 05.05.2014

BITUMEN DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

AS per IRC : SP : 11 - 1984

CLIENT	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
AGENCY	**Mr. K. Shivakumar,** Contractor, Bangalore.
NAME OF THE WORK	Providing and laying HDPE Water line in Mutyalanagara Block - 2 in JP Park, Ward No. 17, BBMP, Bangalore.
REFERENCE	EE/RRND/Wo. No./234/2013-14 Dated: 07.02.2014
SAMPLE I/D	HDPE Water line in Mutyalanagara Block - 2 in JP Park, Ward No. 17
DATE OF TESTING	05.05.2014

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	474	475
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	26	25.00
7. Bitumen content in %	5.20	5.00
8. Average	**5.10**	

Note:

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Job No.: CTCE/BBMP/WNo.17/KS/SDBC/Gradation/2014-15 05.05.2014

GRADATION DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

As per IS : 2386 and IRC : SP : 11 - 1984

CLIENT	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
AGENCY	**Mr. K. Shivakumar,** Contractor, Bangalore.
NAME OF THE WORK	Providing and laying HDPE Water line in Mutyalanagara Block - 2 in JP Park, Ward No. 17, BBMP, Bangalore.
REFERENCE	EE/RRND/Wo. No./234/2013-14 Dated: 07.02.2014
SAMPLE I/D	HDPE Water line in Mutyalanagara Block - 2 in JP Park, Ward No. 17
DATE OF TESTING	05.05.2014

GRADATION AFTER EXTRACTION

Sieve Size in mm	Trail 1				Specified Limits as per MORTH specification table 500-15 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
13.2	0	0	0	100	100
9.5	25.32	5.34	5.34	94.66	90-100
4.75	251.14	52.98	58.32	41.68	35-51
2.36	54.64	11.53	69.85	30.15	24-39
1.18	52.89	11.16	81.01	18.99	15-30
0.3	28.67	6.05	87.06	12.94	9-19
0.075	33.26	7.02	94.08	5.92	3-8

Sieve Size in mm	Trail 2				Specified Limits as per MORTH specification table 500-15 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
13.2	0	0	0	100	100
9.5	34.15	7.19	7.19	92.81	90-100
4.75	258.68	54.46	61.65	38.35	35-51
2.36	54.47	11.47	73.12	26.88	24-39
1.18	41.16	8.67	81.78	18.22	15-30
0.3	26.39	5.56	87.34	12.66	9-19
0.075	30.18	6.35	93.69	6.31	3-8

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Job No.: CTCE/BBMP/WNo.17/KS/SDBC/AGG/2014-15 05.05.2014

Aggregate Gradation Test

IS : 2386 Part I

Client	**Asst. Executive Engineer,** Yeshwanthapura Sub Division, BBMP, Bangalore.
Agency	**Mr. K. Shivakumar,** Contractor, Bangalore.
Name of the Work	Providing and laying HDPE Water line in Mutyalanagara Block - 2 in JP Park, Ward No. 17, BBMP, Bangalore.
Reference	EE/RRND/Wo. No./234/2013-14 Dated: 07.02.2014
Sample I / D	Hot Mix Plant, Bangalore
Type of Mix	Semi Dense Bituminous Concrete (SDBC)
Date of Testing	05.05.2014

Total Weight of Sample: 5625 gm

SIEVE SIZE, mm	Weight Retained, gm	% Retained	Cummulative % Retained	% Passing	Grade-II As per MORTH	Remarks
13.2	0	0.0	0	100	100	Gradation satisfies Grade-II MORTH specification
9.5	439	7.8	7.80	92.20	90-100	
4.75	2996	53.3	61.07	38.93	35-51	
2.36	723	12.9	73.92	26.08	24-39	
1.18	451	8.0	81.94	18.06	15-30	
0.3	386	6.9	88.80	11.20	9-19	
0.075	325	5.8	94.58	5.42	3-8	

Total Weight of Sample: 5650 gm

SIEVE SIZE, mm	Weight Retained, gm	% Retained	Cummulative % Retained	% Passing	Grade-II As per MORTH	Remarks
13.2	0	0.0	0	100	100	Gradation satisfies Grade-II MORTH specification
9.5	384	6.8	6.80	93.20	90-100	
4.75	3162	56.0	62.76	37.24	35-51	
2.36	529	9.4	72.12	27.88	24-39	
1.18	434	7.7	79.81	20.19	15-30	
0.3	345	6.1	85.91	14.09	9-19	
0.075	512	9.1	94.97	5.03	3-8	

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